

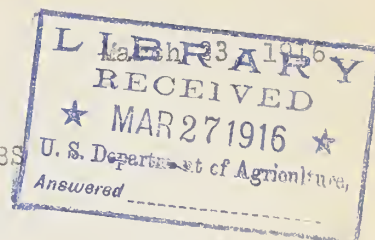
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UNITED STATES DEPARTMENT OF AGRICULTURE.
BUREAU OF ENTOMOLOGY,
WASHINGTON, D. C.

FOREST ENTOMOLOGY 7.

Brief Information on
APHIDES AFFECTING SHADE and ORNAMENTAL SHRUBS
and HOW TO CONTROL THEM.



Evidence of Infestation. During the growing season aphides or so-called "plant lice" occur in winged and wingless form in greater or lesser numbers on the branches, twigs and leaves. They feed on the sap which they suck up from within the tissues by means of their pointed beaks, hence are classed as **sucking insects**. Under favorable conditions aphides suddenly appear in great numbers, particularly in the spring. Their presence is indicated by an abundance of sticky "honeydew" on and under the infested plants, by the presence of ants which feed on the honeydew but do not harm the plant and by the curling and the abnormal falling of leaves; also, when in great abundance, the honeydew, by virtue of dust and mold spores adhering to it and the latter propagating in it, results in the formation of a black film on leaves and other portions of the plant.

Control. Notwithstanding their great numbers, however, aphides are usually incapable of doing permanent harm to an otherwise vigorous tree or shrub. They never abide long in great numbers, being decimated by their numerous insect enemies, and a sharp change in the weather to hot and dry makes their disappearance as sudden as their appearance. Hence treatment, which involves labor and expense and requires an adequate equipment, is in most cases safely dispensed with. But, when conditions warrant it, it is possible and not difficult to check aphid injury artificially in the following manner.

Remedies. Being sucking insects, aphides cannot be reached with stomach poisons. Such insects are usually controlled by covering them with a liquid substance which, without injuring the plant, will kill the insects by clogging their breathing pores or penetrating to their vitals or both. The aim must be, therefore, to **cover every aphid**. The covering is effected by applying such substances with a spraying device which may be a tin atomizer, a bucket, knapsack or barrel sprayer or a power spraying machine, depending on the extent of spraying contemplated.

Substances for spraying plants infested with aphides. (After Dr. Quaintance). 40% nicotine sulphate, which is a tobacco decoction procurable in the market with directions for dilution and application given on the container. Fish-oil soap solution, using 1 pound of the soap to 4 gallons of water. Kerosene emulsion, is effective and safe if properly prepared. Its preparation, however, is somewhat complex and not very suitable for small quantities. (The Brief on its preparation will be sent, if desired).

Note. Strength of solutions should be varied with the delicacy of the plant to be sprayed. **Thoroughness and early application**, before the leaves begin to curl, is indispensable to success. Often a forceful stream of water out of a hose directed against the aphides will dislodge and destroy them. Cooperation with neighbors in equipment and operations or engagement of reliable parties making a specialty of the work is desirable where feasible.

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